

Algebra 2 GHP  
Unit 2 Test Review

Name \_\_\_\_\_  
Date \_\_\_\_\_

Simplify the imaginary numbers.

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| 1) $\sqrt{-144}$                    | 2) $\sqrt{-32}$                      |
| 3) $-\sqrt{-54}$                    | 4) $5\sqrt{-12}$                     |
| 5) $7i - 18i$                       | 6) $9\sqrt{-2} + 6\sqrt{-72}$        |
| 7) $2\sqrt{-48} + 4\sqrt{-75}$      | 8) $(9i)(-3i)$                       |
| 9) $\sqrt{-1} \bullet \sqrt{-196}$  | 10) $4\sqrt{-12} \bullet 3\sqrt{-3}$ |
| 11) $\frac{5\sqrt{-11}}{\sqrt{-3}}$ | 12) $\frac{\sqrt{-13}}{\sqrt{-65}}$  |

Simplify the powers of  $i$ .

|              |              |               |
|--------------|--------------|---------------|
| 13) $i^{23}$ | 14) $i^{66}$ | 15) $i^{204}$ |
|--------------|--------------|---------------|

Express each number in proper complex number form.

|               |                          |
|---------------|--------------------------|
| 16) $-5i + 3$ | 17) $\sqrt{-49}$         |
| 18) 17        | 19) $9 + \sqrt{-25} - 4$ |

Simplify the complex number.

20)  $4(5 + 3i) + i(-7 + 2i)$

21)  $(9 + 2i)(-5 + 4i)$

22)  $(3 + \sqrt{-4})(-8 + 3\sqrt{-36})$

23)  $(-3 + 19i) - (-17 - 5i)$

24)  $\frac{1}{2 - 7i}$

25)  $(3 - 2i)(3 + 2i)$

26)  $(3 - 7i)^2$

27)  $|-3 + -6i|$

28)  $|4 - \sqrt{-9}|$

29)  $6 - (11 + 5i) + 3(2 - 7i)$

30)  $\frac{2i}{-3 + 5i}$

31)  $\frac{4 + 2i}{3 + 8i}$